

Table 12. Comparison of water quality standards with pollutant concentrations in untreated stormwater runoff, treated detention pond effluent, and Tar River water. All runoff and detention pond effluent values are EMCs except those for fecal coliforms and BOD₅, which are medians.

Pollutant		Detention Pond		Tar River (mg/l)	Standard (mg/l)
		Untreated Runoff (mg/l)	Treated Effluent (mg/l)		
Total Suspended Solids	TSS	98	28	30	
Particulate Organic Carbon	POC	4.30	2.80	6.50	
Particulate Nitrogen	PN	0.56	0.37	0.12	
Particulate Phosphorus	PP	0.19	0.13	0.04	
Cadmium (unfiltered)	Cd	0.0009	0.0005		0.0020
Chromium (unfiltered)	Cr	0.005	0.002		0.050
Copper (unfiltered)	Cu	0.014	0.009		0.007
Lead (unfiltered)	Pb	0.027	0.010		0.025
Nickel (unfiltered)	Ni	0.005	0.002		0.088
Zinc (unfiltered)	Zn	0.163	0.098		0.050
Dissolved Organic Carbon	DOC	11.50	11.90	12.90	
Dissolved Kjeldahl Nitrogen	DKN	0.50	0.47	0.51	
Nitrate Nitrogen	NO ₃ -N	0.32	0.30	0.64	
Ammonium Nitrogen	NH ₄ -N	0.11	0.10	0.12	
Total Dissolved Phosphorus	TDP	0.17	0.14	0.13	
Phosphate Phosphorus	PO ₄ -P	0.13	0.08	0.10	
Total Organic Carbon	TOC				
Total Phosphorus	TP	0.35	0.27	0.23	
Total Nitrogen	TN	1.04	0.86	0.63	
Fecal Coliform		17,000	12,000		200
Biological Oxygen Demand	BOD ₅	4.9	4.2		

Detention pond effluent had metals concentrations equal to about one-half those in the untreated runoff (Table 12). There are no comparable (infiltered) metals concentration data for the Tar River. Except for Cu and Zn, the runoff concentrations were lower than, or about the same as, maximum concentrations allowed by the State water quality standards. Untreated runoff EMCs for Cu averaged 0.014 mg/l, compared to 0.009 mg/l in the treated effluent. The State Cu standard is 0.007 mg/l. Zinc was about three times more concentrated in the runoff than permitted by the standard, and about two times higher in pond-treated effluent than the standard allows.